

OLDEST BEE PAPER
IN AMERICA

THE AMERICAN BEE JOURNAL

ESTABLISHED
IN 1861

DEVOTED TO SCIENTIFIC BEE-CULTURE AND THE PRODUCTION AND SALE OF PURE HONEY.

VOL. XVII.

CHICAGO, ILL., MAY 18, 1881.

No. 20.

THE AMERICAN
BEE JOURNAL

Published every Wednesday, by

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,

974 WEST MADISON ST., CHICAGO, ILL.

TERMS OF SUBSCRIPTION:

WEEKLY—(52 numbers) \$3.00 a year, in advance.
Three or Six Months at the same rate.
SEMI-MONTHLY—The first and third numbers of
each month, at \$1.00 a year, in advance.
MONTHLY—The first number of each month, at
50 cents a year, in advance.

Any person sending a Club of six is entitled
to an extra copy (like the club) which may be sent to
any address desired. Sample copies furnished free.
Remit by money-order, registered letter, ex-
press or bank draft on Chicago or New York, payable
to our order. Such only are at our risk. Checks on
local banks cost us 25 cents for collecting.

Free of postage in the United States or Canada.
Postage to Europe 50 cents extra.

Entered at Chicago post office as second class matter.

CORRESPONDENCE

Translated for the American Bee Journal.

The Apiary of Mons. Fiorini.

CHAS. DADANT.

By request of the editor of the BEE JOURNAL I translate the following very interesting editorial article from *L'Apicoltore*:

"Who has not heard of Fiorini, the enterprising bee-keeper who last year made a trip to the Orient expressly to secure the direct importation of the far-famed bee from Cyprus Island. As soon as he had returned from his journey, in January, 1880, he informed me of the successful issue of his undertaking, and invited me to come and see the colonies he had brought with him. I hastened to Monselice, a town on the road between Padua and Bologna, where Mr. Fiorini resides. At Padua I met Mr. Sartori, who, returning from Venice was on his way to Monselice. Major Hrushka, the inventor of the honey extractor, was to be one of the party, but, to our sorrow, at the hour of starting Mr. Sartori had to depart alone. From Padua one hour by railroad brought us to Monselice, where Mr. Fiorini came to meet us. We went to his home, and immediately turned our attention to the beautiful Cyprian bees.

"Mr. Fiorini, with difficulty, had succeeded in gathering together 8 colonies at Lanarca, as he narrated in the description of his journey (see AMERICAN BEE JOURNAL for Aug., 1880, page 373). Six of these colonies were put in small boxes especially prepared for the journey, and two were in their original hives or earthen jars. Yet, although Mr. Fiorini used every precaution to strengthen the poorest of them, some were yet very weak; the winter being unusually cold, he experienced great difficulty to bring them through the winter. These colonies were placed at a southern window, to allow them to go

out and discharge their feces, so necessary after such a long confinement. Every evening these colonies were brought into a warm room. Notwithstanding these precautions, two queens perished, leaving but 6 colonies alive. This misfortune had destroyed my hope of getting some of these colonies, but Mr. Fiorini was willing to keep his word, and sold me two colonies, besides presenting me one of the earthen hives where the queen had died....

"Mr. Fiorini had not yet thoroughly examined the small colonies, hence I had the opportunity of seeing 7 Cyprian colonies and 5 queens. I noticed that the Cyprians, as well as the Italians, are not perfectly alike in color. In fact, I saw one queen much more yellow than the others, and one colony where the color of the workers was perceptibly lighter than the copper-yellow of the

can be distinctly seen when the worker to be examined is immersed in alcohol. The corslet of the Italian worker is generally of a uniform tinge which approximates black. There are, however, some colonies of Italians in which a few of the workers are adorned with the above mark of the Cyprian. This mark is, moreover, always smaller and of a duller yellow, and, in fact, such bees are an exception, at least in the locality where I have had occasion to notice them. This mark, which in the Italian is an exception, in the Cyprian, on the contrary, is a fixed characteristic. Was the Italian bee original in the Orient; or is this mark, which is sometimes visible on our bees, a phenomenon of atavism? Who knows?

"Cyprian queens have no such mark, for I have not seen it either in the directly imported queens, or in their queen

these peculiarities, because some find the Cyprian queens very fine, while others, looking for the test of purity in the increasing yellow color, find these bees not so beautiful, and because such a remark can have some weight on the sales of queens.

"Mr. Fiorini, in his journey to the Orient, gathered worker bees at Corfu, Jaffa, Ramble, Jerusalem, Mount Olivet, Bethlehem, St. John in the Mountain, and Beyrout, as he narrated in the description of his journey (page 373 of AMERICAN BEE JOURNAL, 1880). I examined these bees carefully one after another. All (about 50 in number) have, like the Cyprian, the third ring of the corslet yellow. All were, like the Cyprian, a little smaller than the Italian, although having been gathered on the continent, and that, too, to my mind, proves that the smaller size of the Cyprian is not the result of their inhabiting an island, a circumstance which generally influences the growth of other animals. I found some of these bees a little more yellow than others; but I had already noticed similar differences between the bees of the several colonies imported by Mr. Fiorini, and we know that it is usual among the Italian. Besides, as all these bees were gathered in the same phial and in small numbers, I was unable to know whether these small differences were local and constant, or only accidental.

"I examined the drones later. They are, among the Cyprians, more beautiful than either the queens or the workers. The hairs of the Cyprian are whitish; three rings of the abdomen, the nearest to the corslet, and sometimes four, are adorned with copper yellow in their upper part, and this in all the colonies, at least as far as I noticed. Yet the drones, like the queens, have not the yellow mark of the workers. In the Italian bees the drones are not all adorned with yellow, a large part of them having only some yellow marks, and a greater number of them being about uniformly black.

"As I said about the Italian workers, which have exceptionally the mark of the Cyprian, there can be found a few Italian drones, although very rarely, which are as yellow as the Cyprians; yet the Cyprian drones can easily be distinguished by the whitish color of their hair.

"According to some, one of the merits of the Cyprian bees is that they are less inclined to rear drones. Mr. Fiorini narrated that in the 8 colonies he found but about 10 square decimeters of drone cells (a square decimeter is about four inches square). The earthen hive which he gave me while I was at Monselice, had no drone cells; yet my observation in this my first year with Cyprians, did not confirm the persistence of this quality. I have some reason to think that the combs observed by Mr. Fiorini were those of after-swarms, or of first swarms who had built during a scarcity of honey.

"As to the greater or less tendency to sting, I will wait for another year before pronouncing an opinion.

"To sum up, I do not think that there is the least fear of the Cyprian bees taking the first rank which was conceded to the Italian amongst the other races,



One of Mr. Fiorini's Apiaries, located at Merandole, Italy.

bees of the other Cyprian colonies. As to this special color, I notice a curious coincidence. It is said that the first copper was found in the Island of Cyprus (*a Cypro caprum dicitur*). The name of Cyprian is therefore twice related to these bees, since they were first noticed at Cyprus, and since they are copper-colored. Both of these circumstances will probably perpetuate the name of Cyprian to those bees, although the same bees can be found in all Asia Minor, and in a large part of the East, as we will see. The most distinct mark of the workers of this kind has not yet been noticed, which consists in a mark of the same yellow as that of the abdomen, which, in the form of a half-moon, occupies nearly all of the third ring of the corslet of the worker.

"All the full-blooded Cyprian workers have this characteristic mark, which

progeny. Every queen is without this mark. This fact seems to be very singular. What is still more curious, is that, while the color of the hair and of the skin of the workers are generally yellow, the queens have the rings with black bands very well marked, but narrower than in the Italian. This does not mean that they are less beautiful—that depends on the taste. The beekeepers, outside the Alps, think a queen the more beautiful when the black color is least, because the preponderance of yellow is for them a guarantee of purity. In the Cyprian queens both colors are, it seems, more distinct. One makes the other more apparent, by the contrast, which prevents dullness, and to my taste is more beautiful. I have dilated on

* Atavism—The recurrence of the original type of a species in the progeny of its varieties.—WEBSTER'S UNABRIDGED.

* Count Gaetano Barbo, the writer of this article, is a very good microscopist.—CH. D.

and that in spite of the popularity that in these late years they have acquired, and by which, of course, the queen-breeders will profit. Yet, I think that a decided advantage will be gained in the direct importation of this beautiful race, by the crossing between our best queens and the drones of Cyprus.

"The Cyprian bees were the great, but not the sole aim of our journey. Knowing that the apiary of Mr. Fiorini was among the best in Italy, and the skill with which he manages his bees, I was in great expectations. I am happy to say my anticipation was exceeded.

"Mr. Fiorini had wintered over 500 colonies of bees in 3 places and 4 apiaries. One of these places with 2 apiaries, each of 100 colonies, is in the garden adjoining the residence of Mr. Fiorini, at Monselice. Another apiary of 200 colonies, of which I give the engraving (see first page), is in one of the properties of Mr. Fiorini, in a place named Merandole, and a third in another property, numbering above 100 colonies.

"The apiaries or bee-houses of Mr. Fiorini are made with roofs covered with tiles, and supported by wooden plates and rafters, under which a long and solid beam holds two stories of hives. Every one of the posts has an iron foot which is plunged in a small stone recipient of water, in order to obtain a complete insulation. All the hives are three stories high.

"Some of Mr. Fiorini's hives are double and even treble, and which can be reduced to one by taking out the partitions. Experience has taught him, as well as a number of others, that the best way to obtain the greatest amount of honey is to repress natural swarming. In spring he chooses from his colonies the most populous, which he puts in the triple hives; as soon as one of the compartments is full he takes out one of the division boards; when both these compartments are full, he takes out another partition. With such management, he obtains over 30 kilo. (66 lbs.) of honey, with enough honey for the bees to winter on.

"The apiary at Merandole faces the east. The sun warms it only for half a day. When the bees return from the fields loaded with honey in the afternoon, most of them, before entering the hive, alight on the ground, which is cold, and are unable to repair to their hives. If the night is a little cold, and if the sun does not shine the next morning, most of them are lost. Mr. Fiorini, to obviate this inconvenience has 4 men, who with gloves gather the bees in large pans, sometimes in great quantities. These bees are put in a warm room and enabled to return to their hives.

"When I visited the apiaries of Mr. Fiorini, only one was occupied; all the hives were gathered in a large room near each apiary, secure and dry in a temperature which does not go under -1 nor over +1 (from 30° to 34°). A humming a little stronger could be heard when we entered this winter repository.

"Every one can imagine how great the work to manage such an apiary. Such an undertaking could not succeed but for the good order which I have admired at Mr. Fiorini's. Two large rooms are used—one for the preservation of the combs, the other, facing the north, is the working-room. In 2 large cupboards are gathered thousands of combs, empty or filled with honey. In a third cupboard are the small combs used in shipping the 800 queens that Mr. Fiorini exports annually.*

"Mr. Fiorini showed me also his correspondence with the Italian Secretaries of State and of Agriculture, and with his agents in the Island of Java,† in order to attempt the direct importation of the *Apis dorsata*, which is larger than ours. With a great deal of persistence, Mr. Fiorini had nearly succeeded in importing this race of bees, as I could see by the following letter communica-

ted to him by the Secretary of State, under date of Aug. 18, 1877:

"Sir: In compliance with my letter of March 23, I present to your notice a report which comes to me from the royal consul of Singapore. This royal functionary writes me that in compliance with information directed by Mr. Van Oosterzee, consul to Batavia, and of Messrs. Tidman, Balfour & Co., Mr. Ferrari, of Buitenzorg, who was intrusted with the search for bees in this Island, has succeeded, in some places, in procuring some of these bees.

"In view of the desire of Mr. Fiorini to import these bees, and thinking your signory would prefer the successful sending through the peninsular line, I have taken steps to send them directly from Batavia to Venetia, through the English line, with a recommendation to the agency of Singapore, to take all possible precautions for the transportation and the placing of the boxes on board. I beg your signory to bring to the notice of Mr. Fiorini the forthcoming arrival of the desired insects, so that he may be ready to take steps for their reception. G. MORIELLI."

"Mr. Fiorini was planning a bolder scheme, and he had for a long time spoken of it to me, but the American Benton has the start in going to Java, as appears from his letters published in the bee papers. As everybody will see, Mr. Fiorini has more than one claim to the public gratitude, and the President of the Central Association, in giving him the gold medal, was but the interpreter of the unanimous wish of the Italian bee-keepers.

"If these lines should induce some bee-keeper to visit Mr. Fiorini, I will be glad of it, for such a visit will be productive of precious practical notions; of encouragement, and of the conviction of the unexceptionable importance of our pursuit. In remembrance of the lively and cordial reception and of the indefatigable condescension in satisfying my insatiable, and at times indiscreet curiosity, I send to the bee-keeper of Monselice an apianian greeting. G. BARBO."

For the American Bee Journal.

The Central Idea in Wintering Bees.

J. W. MCKINNEY, M. D.

In consideration of the unusual mortality among bees the past winter, all through the States lying north of the State of Tennessee, I am disposed to state my success in wintering.

As spring is now fairly established, and all danger from spring dwindling is passed, we can the better judge of the full merit of this or that mode of wintering bees. Many reports made in the months of February and March of successful wintering, will prove premature and have to be largely revised; for to my certain knowledge, in this section of the country, many colonies that had struggled through five months' of cold winter-weather, perished during the first part of April.

For many years it has been a matter of surprise to me that there should exist such diversity of opinion among apiarists in regard to the best mode of successfully wintering bees in the Northern States. Every thoughtful and observing apiarist must know or ought to know, the more quiet bees are kept the better they will winter. The more evenly a temperature, between 35° and 45°, is maintained in the immediate vicinity outside the hive, the better they winter. The purer the atmosphere that enters the hive, the better they winter. With these conditions and a sufficiency of honey in the hive, all doubt can be obviated about successfully wintering bees.

Can these conditions all be secured and maintained in any place so easily as in a cellar? If not, then why take the hazard of out-door wintering? Pack them as you will on summer stands, in chaff, or whatever else you please, you hardly expect to control the temperature of the atmosphere in which they live for the winter. Some one might ask, has there not been many failures the past winter, as in seasons preceding, in cellar wintering? Most certainly there has; and why? Because the important central idea in cellar win-

tering was lost sight of: viz., that of maintaining a low, even temperature.

I know some of our very best apiarists who lost sight of the importance of this, and resorted to frequently heating their cellar by means of a stove last winter. The result of this uneven and sometimes high temperature, was disastrous to the bees. Though in a perfectly dark cellar, brood-rearing was begun early in the winter, which naturally shortened the life of the old bees, and as the young bees were deprived of the necessary flight when one or two weeks old, the result was disease and death of many colonies. Much worse results followed, however, in this vicinity where bees were wintered out-of-doors, 80 per cent at least having perished in this and adjoining counties during the past winter.

Now for the manner in which I wintered my bees: With the assistance of a hired man, I put 50 colonies of bees in an under-ground cellar on October 23 last. On November 11, I put 70 more in the same cellar. Of the above 120 colonies, 23 were nuclei and 27 were weak in bees and light in supplies, leaving but 70 in good condition for wintering, as regards quantity of bees and ample supplies. I took some out and placed them on their summer stands March 21. Those first put in the cellar, were not removed till April 7th. The continued cold weather kept them from taking a cleansing flight till April 14th, thus having been confined to their hives for more than 5½ months, (or 173 days.) On moving them from the cellar, I found 2 standard colonies dead, having been smothered by the entrance becoming closed, and 3 of the nuclei having consumed their supplies, had died. Some 4 or 5 of the weaker nuclei chilled to death during the latter part of March, and first part of April, leaving 110 colonies that wintered safely through this long cold winter in my under-ground cellar, at a temperature never above 45° nor below 33°.

Camargo, Ill., April 28th, 1881.

For the American Bee Journal.

Waxed Ends.

B. HIX.

Az fur az mi own observation extends glewose is the best hunny plant yit discovered; it wil stan enny klimate or sile, is purrennial in its habbits, and is as ezy tew kultivate az a Kanada thistle, and full az eazy tew erradicate. Its hunny cnps air shaller, sow a short tonged bea is gest as good az one a foot long. If yew hev this plant growing in yewer naberhood, a Be Journal is onessary and overstocking onpossible.

Ten year ago i new awl about bees and waz so positive az to frekently alterkate with objectors on kardinal pints, but poor sesons and tuff winters, sandswitched with agravated attacks or long spring dwindles, haz dun fur me what argyment culd never do, and now i don't no enuff about bees 2 overstock the market; but ive found out won thing: wilfull old natur had jest az soon kill won hunderd and foar kolonies az one. I don't try to arger with hur enny moar. She nose the hull story, and wil hev the last word.

I went 20 mile tew kall on a man that grandiloquizes in the papors about hiz "litle petts." He had 2 strong hives in a week kondition, and it wuz so nasty around thar i didnt sta tew dinner.

When i sea a amitewer watchin his bees a falen into the sno, i drive rite along; hiz kountenance iz enuff fur me. The man that reporteth a bigg hunny kropp and at the same time a large inkrease ov kolonies, is purty shure tew hev hiz name writ into the order book ov a glewose seed store.

During the late thaw i see a man examininn his bees; tha wuz so quiet like that i ventured klose. The konfident look that he wore las fall wassent thar now enny more, and as the okkasion wuz won words cudent reech, i took mi departuer.

When the freemometur wuz nappin at 10 below, mi naber moved 13 kolonies 7 mile, and sot thum in his yard. He sed he chused a kold da so az not to git stung. Now i hate to meet a sollum man, but we met 2-day. Hiz bees air the stingless variety.

Translated for the American Bee Journal.

Shall Bees be Fed in Winter?

L. H. FÄMMEL, JR.

The following article on the above subject, by Dr. Dzierzon, is from the *Beienen-Zeitung*:

"Too much honey in the fall is dangerous, as all the cells will be filled with honey, and the bees will have a very cold place to winter in, and the consequences are that many dead bees will be found in the hive. Bees, like all other animals, require as small a space as possible in which to contract themselves and keep warm. They are not only found to occupy but a small space between the combs, but in many of the cells bees can be found; perhaps more are found in the cells than between the combs. Now, if the cells are filled with honey the cluster will be of an unequal size, the cold sheets of honey will cause dampness, and the uncapped honey become sour and watery and lose its entire aroma. This is only the case with honey as soon as breeding stops. If the honey is distasteful to the bee, some other honey should be put in its place. It is, therefore, advisable to take away some of the sealed honey and store it for winter use in feeding, as this feeding can be done to great advantage when the bees take a purifying flight.

"It is still better to have 3 or 4 colonies in one hive if possible, and place small partition boards, with holes, between the brood and honey chamber, and put some honey in the storage chamber, by first removing the moss or hay; in this way bees can be fed without disturbing them or causing excitement.

"But should you give sugar candy or anything of that nature, bees will eat it, as it requires considerable moisture to dissolve it—a great deal more so than it does to dissolve honey. It is a well known fact, that nothing can be more dangerous to the bees than a disturbance, especially if everything is closed so that they cannot fly out; for if they are disturbed they exhaust themselves in attempting to get out. Therefore it is better never to close the entrance entirely, unless for transportation, for it is much better to lose a few hundred bees in this way than to lose the entire colony. No sensible bee-keeper will feed his bees after a fresh fall of snow, or during the prevalence of a cold wind. Not many bees will be lost when it is quiet and cold, as they soon experience a chill and quiet down. It is always best to feed bees at dark, as they will not then endeavor to fly, and all danger from excitement will be avoided."

For the American Bee Journal.

How to Test Italian Queens.

O. H. TOWNSEND.

The method in general use is as follows: If all the workers show 3 yellow bands they are classed as pure Italians, and this is carried so far as to advise the bending of the bees, or placing them on a window, in order to discover the bands. I am sure the above rule has caused many a colony of hybrids to be classed as pure Italians.

I have several colonies of hybrids which are ½ black in blood, the worker bees of which all show the 3 bands, without bending or placing them on a window.

This method of testing Italian bees has led many to believe that the dark Italians are crosser and more inclined to sting than the light ones. As I am ready to defend the dark Italians I shall firmly plead for them—"not guilty." Some who have Italians, and some well-marked hybrids, call the latter dark Italians, and they do not wish to use queens from the latter because they were too cross. These hybrids showed the 3 bands, when the above directions were followed, or, "when we looked for them right," by bending the body, using plenty of smoke to cause them to fill their sacks with honey, or placing them on a window, etc. I am not personal. I only write to discuss the method of testing queens, which, according to my judgment, has been found wanting. As some may desire a better test I will give it:

1. The worker progeny of a pure queen (whether light or dark) will all plainly show the 3 bands peculiar to their race, as they stand on the combs, without feeding, bending, or placing them on a window.

2. They will all have light downy rings around that part of their bodies back of the 3 yellow bands. Sometimes these rings of down or hair are worn off from the effects of having honey on their bodies, as in case of robbing, etc. When the absence of these rings is thus caused the back part of the abdomen always presents a shiny, black appearance. I always find, sooner or later, that all queens not bearing the above test will show their impurity by the disposition of their workers. I usually use more smoke when handling such, than I do with pure Italians. They will not keep their place on the combs like the latter while being handled, and sometimes they will leave the combs entirely, and roll over the sides of the hive like black bees. Again, some of their queen progeny, even though they mate with pure drones, will produce cross workers although they look like fine Italians; but a close examination will show the absence of the rings of down on a part of the bees. Such will not be shiny-black unless smeared with honey or syrup.

I claim that the bright rings covering the back part of the bodies of all the bees of a colony is a sure test of purity. The bees must be several days old before the above test can be applied, as it is difficult to distinguish the light rings on bees just emerged from the cells; but if it is a pure colony the 3 yellow bands can be seen as soon as the bees are hatched, while they stand in a natural position on the comb. When all bee-keepers adopt this method of testing their queens, the dark Italians will no longer be called crosser than the light ones.

Hubbardston, Mich.

For the American Bee Journal.

Chaff Packing—The Result.

J. H. TOWNLEY.

The old reliable and ever welcome BEE JOURNAL makes its regular weekly visits filled with interesting and valuable information upon all topics connected with bee-keeping. The past winter has been worse than the winter of 1842-3. Cold weather then commenced Nov. 17 and continued until near the last of March, but we had warm weather by April 1. This year on April 3 it snowed, and on the 2d it was only 7° above zero. In 1842-3 I was so unfortunate as to lose all the bees I had, one "skip" in a hollow log, but found another one in April with which to commence again, and have been without bees but 2 years since.

Chaff; Oh yes, chaff! how about chaff now? As I was the first to bring chaff packing as a winter protection to bees before the bee-keeping public (in *Gleanings*), I am again receiving letters in relation to it, while some of the writers intimate that the "baby" is dead or dying, others seem to be just a little "sarcastic;" for instance, as follows: "How do you manage to winter your bees on chaff? Do you give it to them clear, or do you mix it with honey, sugar, or glucose? Do you cook it or do you feed it raw? Do you have it ground or feed it whole? Will it not produce dysentery if fed whole without bolting?" etc.

It has now been 10 years since I first commenced wintering bees packed in chaff. I have heretofore been very successful with it, but the present winter has been a little too much for the chaff. The winter commenced early. The last good flight the bees had was in October; from then until the 6th of March they were kept in their hives by cold weather. Bees have died all around me in cellars, out-doors, and, in fact, in all other ways of wintering them. Whole apiaries, consisting of 2 or 3 colonies up to 150, each have been swept out of existence, leaving nothing but hives and combs. Last season was very poor here for bees; but few colonies stored any surplus honey; hardly enough was collected during the fall crop to keep up breeding; they went

into winter quarters light in numbers and weak in stores; I was away from home, too, when I ought to have been there preparing them for winter, and they were not put up as they should have been. As a consequence, all I have left now is 54 colonies.

Tompkins, Mich.

For the American Bee Journal.

Wintered well in Chaff Packing.

C. W. MCKOWN.

Last fall I had 24 colonies of Italians in double-walled hives, with 4 inches of space between the walls on every side of the bees. I packed this space full of dry wheat chaff; gave no ventilation at the bottom, but the entrance, $\frac{1}{2}$ x 4 in. I used boxes as large as the body of the hives, 6 in. deep, with common muslin for bottoms. These were filled with the same kind of chaff and placed in the hive, and the caps were put on over all. This gave no top ventilation except what could pass through the chaff box and out between the hive and cap. In place of a honey board I used a piece of thin cloth on some, one thickness of home-made carpet on others, or a heavy woolen cloth. The frames I use are 11 $\frac{1}{4}$ in. in side measure. My bees were in good condition in the fall, but some of the honey was not capped and consequently soured and caused some mold. Some of these colonies did not fly from Nov. 18 to March 15; others flew a little 3 or 4 times between these dates. My loss in these 24 colonies was one, which by some unaccountable blunder was "chaffed" only on 2 sides. There were some dead bees in all the hives, and dysentery in several, though not very bad in any but one; this I surely would have lost in March had I not resorted to radical treatment. One day in March I found the bees daubed and not disposed to move or fly; so I took the honey cloth off and let the sun in between the frames. The bees soon began to roar and crawl all over the hive. Many flew away and never returned, others crawled out and back. About $\frac{1}{2}$ the bees never returned, but those that did were cured, and now it is a good colony. But the color of the hive was changed from clear white to dirt brown.

Bees packed in this way are not affected by a solitary warm day—it takes about 3 of such to bring them out. Some moisture accumulated in the chaff over the cluster, and I repeatedly lifted off the caps to let the sun dry it. In March, when I wanted to force them to fly, I took the caps and chaff boxes off and let the sun shine on the honey cloths. This brought the bees out in a few minutes. I had 9 other colonies in single-walled hives; the caps filled with wheat chaff and about 12 inches of the same on the outside, covered with boards. Of these I lost one. So my loss in 33 is only 2. Some tell us of failures with chaff, but they do not tell us what kind of chaff was used, how much, or in what way. I believe the chaff hive theory is correct, and the failure is in the manner of doing it. The prospect for a good honey season here is excellent. There is an extra fine crop of white clover coming on.

Gilson, Ill., May 2, 1881.



Eastern Michigan Convention.

The Bee-keepers of Eastern Michigan met at Detroit on May 3, and formed the Eastern Michigan Bee-keepers' Association, with the usual Constitution and By-Laws.

The following were elected officers for the ensuing year: President, A. B. Pierce; Vice-President, Wm. Morhous; Sec., A. B. Weed; Treas., J. G. Sanborn. The chief topic of discussion was the comparative merits of imported and home bred queens. All agreed that further importation was undesirable.

Mr. Otto Kleinow believed that imported queens were the best for those who bred queens for sale, because they sold better; he saw no difference in the

working qualities of the two kinds. He was of the opinion that Italian blood would run out.

Mr. Hunt thought that blood was as likely to "run" one way as the other. He believed that Americans surpassed the Italians in skill in breeding.

Mr. Holbrook said that Italians would not run out if the drones in the neighborhood were of the right kind.

Mr. Herberstute had had black bees that ran to Italians because there were Italian drones in his neighborhood.

Mr. Holbrook said that the same principles applied to the breeding of bees as to cattle.

Mr. Pierce said that American bred cattle were equal to imported.

Mr. Weed thought that frequent importation of fresh blood precluded the possibility of improvement by selection.

The question "why do bees swarm out in the spring" elicited much interest. The conclusion was that it was because of uncomfortable quarters.

Mr. Hunt and Mr. Morhous had some that swarmed out this spring, when the closest examination revealed no cause.

Mr. Holbrook said that there was yet much to be learned about bees.

Mr. Kleinow had observed that a slight covering, if dry, was better than a heavy one if damp; he considered ventilation above the chaff necessary.

Minor subjects were discussed and the Association adjourned to April 11, 1882, at Detroit. A. B. WEED, Sec.

Read before the Central Michigan Convention.

The Lesson of the Winter.

PROF. A. J. COOK.

I do not know that Shakspeare was a bee-keeper, though he seems to have been almost everything; or at least to have been intimately conversant with all kinds of men and their various crafts; but I do know that his "sweet are the uses of adversity" is specially pertinent, after such a winter as we have just experienced, and may well serve as the text of an address to practical bee-keepers.

As many who have suffered sore losses will wonder where we can see aught of sweetness, I propose, on this occasion, to indicate just where we have received value from the unwelcome losses of the past severe winter.

We have previously learned that to winter our bees on the summer stands, with no protection, was neither safe nor wise. Bees thus neglected may pass safely through several winters. But he who trusts his bees, with no protection from the full sweep of the winter's blasts, can never be certain that his pets will live to greet the sunshine and bloom of the coming spring.

Past experience has also taught us that good cellars, thoroughly adapted to the requirements of our bees, were safe, and could be safely trusted with our little insect servants, even though the storms raged in maddest fury for four or five months. The past exceptionally severe winter has been valuable in showing that this opinion was in no wise vain. Good cellars are again vindicated as the most secure places in which to winter bees.

We have also been taught by our practice in the past that chaff hives, or packing about the hives with chaff, sawdust, or straw, would aid to ward off calamity in severe seasons, but we had not had such a trial as would warrant us in pronouncing them wholly safe. The past winter has furnished a crucial test. The verdict is an important one. This seems to call in question the trustworthiness of the heavy, costly chaff hives, and certainly pronounces against the efficiency of the method of packing. A good packing box will cost, at least, \$1, which will be the extra cost of a good chaff hive. These latter are, besides, inconvenient and awkward. Now if the past winter is fruitful in convincing bee-keepers that such packing boxes and hives are insufficient, and thereby saves to each bee-keeper \$1 per colony, it will not be wholly in vain; and we shall be able to see some use in adversity.

Again, the past winter has shown that cellar wintering saves no small amount of honey. Colonies wintered out-doors, even though well packed, have eaten 20

or 30 lbs. of honey, and in some cases seem actually to have starved to death, after eating all their stores, while colonies in the same condition have wintered in the cellars on less than $\frac{1}{2}$ the amount of honey. The extra honey consumed is worth \$2 a colony.

More than all this, the bees are also dead, which adds \$8 to the loss. It will quickly be seen that a few colonies of bees will pay all the expense of a good cellar, or of converting a poor one into one that is suitable. The present winter has more than ever settled the question in favor of good cellars for wintering bees in all the Northern States of our country.

Last autumn all our colonies of bees at the Agricultural College were strong, and were provisioned with about 30 lbs. of good capped honey to the colony. On Nov. 10, $\frac{1}{2}$ were packed in straw—the packing being one foot in thickness—and immediately above the bees there was placed 6 inches of chaff. One of these colonies was also in a Shuck hive. The other half of our bees were, on the same day, placed in the cellar. Just 5 months later, on March 10, all were examined and permitted to fly. There was no suitable opportunity previous to this date. Those in the cellar were all in good condition, while each colony had over 20 lbs. of honey. Half of those out-doors were already dead; the others were suffering in no small degree from the dysentery, though the colony in the Shuck hive was in far the best condition. On the evening of March 10 I placed all in the cellar except the colony in the Shuck hive. Since then one, which was reduced to a mere handful of bees, has died in the cellar. The colony in the Shuck hive is no more. This hive was warranted, I believe, to be all-sufficient, without any packing. Warrants do not always save bees. Had I removed this colony to the cellar on March 10 I feel sure it would have remained with us. I do not regret, however, that I gave the hive the trial, though I do regret the result.

The great *sine qua non* to successful wintering of bees, next to a sufficiency of good honey, is a uniform temperature, neither too hot nor too cold. Too much heat irritates, induces uneasiness, over-eating, and, if the bees are restrained from flight, death. Cold likewise stimulates to activity, that the bodily heat may be kept normal; undue eating follows as a necessity, and, as before, with prolonged confinement comes death.

With such prolonged cold as we have had the past winter, the best chaff hive or style of packing will prove insufficient to maintain this uniform temperature, which should range from 35° to 45° F. But a well-arranged cellar will secure this desideratum, and so may always be counted on to bridge over calamity with bees that are in good condition in the fall, and that are provided with sufficient good capped honey; and as we have seen, it requires the minimum amount, if we winter in a good cellar.

A uniform temperature in a cellar may be secured in either of 2 ways: First, by sub-earth ventilation, where the cellar is constantly supplied with fresh air drawn 30 to 40 feet through the earth, quite below the freezing point. Or, secondly, by keeping a large body of water in the cellar. This, as in our cellar, may be accomplished by arranging the out-flowing drain pipe so that it will be higher than the bottom of cellar.

A better way would be to have the cellar well drained, and have a large cistern in it. As you all know, such a body of water would serve excellently well to modify temperature, keeping it warm in the cold winter days and not suffering it to rise during the warm days of winter and spring.

I fully believe that in a cellar thus prepared, colonies of bees which were in good condition in the fall, might remain for 6 months in prime condition. Two small nuclei in our cellar survived until March, the past winter, and then only died because the water raised till it covered the bottom boards, owing to our floods. The old idea that a cellar must be dry to be safe for bees, is not founded in fact. Ours has worked well for 2 winters, and has had from 4 to 8 inches of water in it during all the winter through.



THOMAS C. NEWMAN.

EDITOR AND PROPRIETOR.

CHICAGO, ILL., MAY 18, 1881.

Sweden has this season had one of the severest winters ever known.

We have received a crate of Given's foundation in wired frames, which we will test and report on, as soon as venient.

Trees by hundreds of thousands in southern Wisconsin were destroyed by ground mice during the snow blockade.

We have received Mr. O. H. Townsend's Catalogue for 1881, consisting of 10 pages. He has supplies and bee-implements for sale at Hubbardston, Mich.

The Bill against "Foul Brood" was passed by the Michigan Legislature, on the 5th inst., and now only needs the signature of the Governor to make it a law.

Mr. B. Salisbury gives the following statistics: "At a meeting of the Southern Michigan Bee-Keepers' Association, held in Battle Creek last Wednesday, 39 bee-keepers reported as follows: Last fall 771 colonies; on May 11—325."

Prof. A. J. Cook writes as follows: "Editor Weekly BEE JOURNAL:—Allow me personally to thank you for the communications from our venerable friend and the great apiarist, Rev. L. L. Langstroth. All that we can gather from his rich, ripe experience is most valuable. Let us hope for many communications."

Mr. G. M. Doolittle is better. This intelligence will be welcome news to our readers. A postal card just received says: "After a short but very severe illness I am again about, although quite weak. Hard maples are in full bloom, with the mercury at 80° in the shade. Bees are prospering; I have bees in 72 hives yet, but shall double down to 40 to commence the season with."

We give considerable space this week to the able article from the pen of Count Gaetano Barbo, President of the National Society of Bee-Keepers in Italy. It is not necessary to apologize for so doing, as it will be read with deep interest by all our subscribers, who will recognize it as a masterly production of a scientist of no mean attainments.

We have received a letter asking "how would bees do in the northern part of Dakota, Minnesota or the Northwest Territory? Is there a supply of honey plants there, or are the winters too long for them to do well?" Will some of our subscribers in the localities mentioned be kind enough to answer the queries? We can only give conjectures, and these are not always reliable.

Retrospective and Prospective.

Until the founding of the AMERICAN BEE JOURNAL, some twenty years ago, but little thought had been devoted in this country to bee-keeping as an occupation, and still less to it as a science. True, many kept a greater or less number of "gums" or "skeps," and a few, comparatively very few, master minds had conceived rational scientific views regarding many of the internal mysteries of the hive; some had to an extent comprehended the physiological history of the honey bee, but they were so very few that their wisdom was almost covered with disrepute by the ignorant and superstitious ideas of the masses, who kept bees as did their great-grandfathers, and whose comprehension had only kept pace with their improvements. The master-works of Rev. L. L. Langstroth and the late M. Quinby gave rise to much thought and study, which in turn led to experiments, and these created the necessity for a periodical, in the columns of which new discoveries could be heralded, accepted theories be discussed, old prejudices be combatted, and apiculture be elevated to its proper position among the progressive sciences.

That much progress has been made during the twenty years of the BEE JOURNAL's existence all will acknowledge. Many doubtful problems have been solved, and new ideas promulgated; all the standard works on apiculture have been revised time and again, as published experiences have proven to the several authors that their books inclined to error, and none but the most conceited have dared to assume that they knew it all. In nothing, perhaps, has opinion been more divided than upon the subject of preparing bees for winter, and here, again, the BEE JOURNAL has fulfilled its mission in publishing the hundreds of letters giving the results of last winter's experiments—for mostly they were experiments. As we foreshadowed in our issue of February 9th, the winter has been disastrous alike to the veteran and the novice, the specialist and the amateur; where loss was least expected, it has been as heavy as where success was not anticipated. It has but demonstrated that no general method is *absolutely certain*, and to our mind it has proven that in the Northern States there is much less risk in a properly prepared cellar or bee-house, than in any other method in general use. Of course, there are anomalous exceptions, but they are not numerous enough to establish a rule.

While we fully sympathize with many whose losses have been peculiarly trying as individuals, we feel almost tempted to congratulate the bee-keeping fraternity upon the disasters of the past winter. We think we can see many ways in which good may arise from it. It will discourage and drive out of the business many laggards who have only kept bees because they had them to keep; who have kept down the price of good honey by selling their poorly-prepared commodity for what it would bring, because it had cost them nothing. This class of people will probably give it up, or adopt more progressive ideas. The thinning down of our numbers will also prove of great assistance to our Societies and Conventions in uniting beekeepers upon the general issues: antagonism to adulteration; a reliable market for our products; uniformity in

preparation for market; a good, living price for an honest article; a general dissemination of scientific and practical knowledge, and the cultivation of a feeling of fraternity among the beekeepers of America. Should these results be attained, the experience and losses of the past winter, while causing temporary commiseration for a comparative few, will be a source of congratulation for all in the future.

Bee-keeping, heretofore, has been an occupation influenced largely by local and spasmodic causes. Two or three seasons of plentiful yield and good prices were sufficient to induce scores of unthinking persons to start in the business; if a good honey-flow rewarded their efforts, prices immediately declined—but if the season was poor, bees were disposed of very cheaply, or Providence was depended on to protect the bees till a remunerative season should come. And this is the class of persons who have persuaded themselves that box hives are as good as any, and success in bee-keeping "depends upon luck."

They have mostly quit the business!

On page 84 of the Weekly BEE JOURNAL for March, we indulged in some speculations regarding the prospects for this season, and the favorable outlook for an abundant honey flow. Our subsequent correspondence convinces us we were not over-sanguine. White clover was never more plentiful, and the sod is well matted; basswood buds are bright and green, and they lavishly promise, while wild flower plants exhibit a thriftiness seldom equalled. From the South come reports of gratifying honey yields, while in the Central and Northern States bees are thriving remarkably well, and vegetation everywhere, though tardy in starting, is making amends by its unparalleled rapid growth.

We estimate the losses the past winter in the North at over 50 per cent., but there will be larger gross receipts in cash if even only 25 per cent. of the bees are saved, than have been realized the past two seasons, as the honey flow will be abundant, prices rule high, and reckless producers out of the market. We cannot advise any one to go into the bee-keeping business—nor into any other—but we do say, if any one contemplates ever going into it as a specialty, they will never find a more encouraging time than now.

To our unfortunate friends we extend our sympathy—no, not sympathy, but encouragement. Fill up your hives immediately—build up strong; one or two failures should not, *will not*, drive you from a chosen occupation. Look well at every occupation; what one affords the facilities for retrieving losses? In what occupation can you engage where success is *more certain*?

"If at first you don't succeed, try, try again;
You will conquer, never fear, try, try again."

The following letter is from one of the progressive men of the age:

I have been very much interested in the reports giving the successes and failures in wintering bees the past cold winter. I fully sympathize with the unfortunate ones in their losses and disappointments. It is a hard blow to every many. Bee-keeping has its ups and downs, like all pursuits. The man that plants to-day is not sure of a crop of grain; he who rears up a flock of sheep knows not but that to-morrow they may be cut down by disease. But the old maxim is quite as true to-day as ever: "Nothing venture, nothing have." Though we fall to-day, we should spring

to our feet to-morrow, and try again. Perseverance is the mainspring to success, and the man who has good hives and plenty of combs, can very soon work up a good yard of bees. Take courage; go ahead, and all will be well.

I put 90 colonies into a winter-house on the 22d of November; they had a few hours' flight on the 15th of March; put them out the 9th of April; found one dead and two queenless. Since they were put out two more have died, making, up to date, three dead and two queenless. I put the queenless colonies with the others.

I never had my bees, taken together, look better or stronger at this time of year. I have had orders for all of my bees, but sold only ten colonies. I can only say, respecting other bees for many miles around here, if reports were given they would about tally with the reports given in the BEE JOURNAL—very heavy losses.

R. BACON.

Verona, N. Y., May 9, 1881.

We commend the foregoing sensible letter to those who are doubtful as to the future, and beg to assure them that they need pluck, more than sympathy. No one's loss, however great, has been as bad as it might have been.

Forcing Bees to Work in the Boxes.

Mr. J. W. Hinsdale, of Raleigh, N. C., under date of May 11, says:

"I have some 30 colonies, but cannot get the bees to work in the upper stories, though the colonies seem very strong, and there is a fine honey flow at this time. What is the best thing to do?"

The brood-chambers are too large; that is, the queens do not keep them sufficiently packed with brood to prevent the bees storing considerable honey there, and they become loth to leave the brood unless forced to do so. The best course to pursue will be to take out the outside frames, which you will find well filled with honey, and put division boards in their place; if any others are filled with honey take them out, extract the honey, and replace them in the center of the brood chamber only as fast as the queen can use them. By thus contracting the brood chamber, you will force the workers up in the second story before they have made preparations for swarming, and once there, they will be slow to encroach on the queen's domain in the lower story. The size of the brood chamber is the only tenable objection that can be urged against the standard Langstroth hive with ten frames, and we have found them none too many in breeding up, and easily lessened when the sections were neglected. Many of the most successful apiarists use hives holding only seven or eight Langstroth frames.

The bee-keepers of Missouri will meet in Convention at Mexico, Mo., on June 2, 1881, at 10 a. m., and hold a session two days. Dr. N. P. Allen, of Smith's Grove, Ky., President of the North American Bee-Keepers' Association, is expected to be present to assist in organizing a Bee-Keepers' Association; other leading bee-men are expected, due notice of which will be given. The programme will be published in a short time and will embrace such questions as will be of interest both to the novice and practical apiarist. All are invited to partake of and assist in this much needed organization. Those that cannot come will confer a favor by giving us a communication on some subject of interest to bee-men.

P. P. COLLIER, Vice Pres.

N. A. B. K. Association, for Mo. All papers of Missouri please copy.

AMONG OUR EXCHANGES

GLEANINGS.

Mr. Geo. Grimm reports having "lost 35 colonies out of 431." Including the dwindling in spring he does not think it will reach 10 per cent. of loss. He then adds: "In my chaff-hive apiary (consisting of one colony) I lost 100 per cent."

He is Greatly Puzzled.—Novice says: "Neighbor Shane, with an apiary of about 190 colonies, has not lost to exceed 10 per cent., and wintered out-doors at that. The hives were ordinary Langstroth hives with chaff cushions over the frames. He borrowed one chaff hive from us, which wintered without a loss of over 2 dozen bees, and consumed much less stores than those in his other hives. Although he always wintered in cellars until of late, he now thinks he will winter out-of-doors next winter. I confess I am greatly puzzled."

BEE-KEEPERS' EXCHANGE.

Profit by Experience.—As the weak of all kinds, whether of men, animals or plants, are the first to succumb to disease and death, may we not console ourselves that the bees remaining after the recent severe winter are a hardy race, capable of wintering with less percentage of loss in future seasons, and are in addition a class of bees that will multiply rapidly and thus, very soon again "fill the earth?" The proverb says, "there is no great loss without some small gain." This we think is true. Undoubtedly many a shiftless bee-keeper will drop the business; others having lost all their bees will throw away their old appliances, and beginning anew will adopt a better class of hives and management; while others, having gained knowledge from the success of their neighbors in wintering, will more effectually protect their bees in winters to come. Like philosophers, we must profit by experience, hope for the best and prepare for the worst.

Increase Rapidly.—Owing to the great loss of bees this past winter there will be put forth an extra amount of energy in the direction of rapid increase of the apiary. Already inquiries pour in asking how best to restock the depopulated colonies. The requisites are, a few strong colonies, a lot of clean, dry, empty combs, or, better still, a liberal supply of Dunham foundation, hives so arranged that close-fitting division boards can be inserted, and time, knowledge and energy enough to perform all the needful operations at the right time and properly. To this should be added a bountiful yield of honey, after which we might reasonably expect 5 colonies to be increased to 50 good ones by fall.

Report of the Nellis Apiary.—Our own bees were removed from winter quarters on April 8. The loss at that time was about 15 per cent., and after a period of 2 weeks, from uniting and dwindling, the loss amounted to about 25 per cent. We think 2 or 3 colonies starved, not that they were so short of stores, but for some unaccountable reason, some colonies consume nearly twice as much as others, when the conditions and treatment are equal. The mice had evidently secreted themselves in the hives during the fall, and had made havoc in a few hives despite our efforts (partially successful) to trap them. We were diligent to contract the entrances in autumn, but the warmth of the hive and the cosy chaff cushions were a great temptation. Providence permitting, we will effectually exclude the little rascals another fall by the timely application of perforated tin to the entrances, that will allow the bees to pass freely, while the mice can only smell in.

Up to the middle of March the bees were very quiet and seemed to winter

splendidly; later they were somewhat uneasy. Observation shows that the colonies worked for surplus honey have wintered well, while those used for queen rearing were the fated ones, the "tinkering" in fall being the probable cause of their failure. Pollen is now being gathered, and at this writing, April 25, the weather is warm and very dry. We earnestly hope that contrary to the past few seasons, we may get a damp, rainy spell in May, and dry, sunny weather in June, when the great white clover harvest comes.

BEE-KEEPERS' INSTRUCTOR.

Future Prospect.—The Editor says: "We have been using every effort possible to get at the mortality, and have, we think, arrived at a pretty fair approximation of the losses of the winter. We are able to make our estimates from reports of nearly 15,000 colonies reported to us and other bee journals. These reports are mostly from the Northern States, and show when taken in the aggregate a mortality of 55 per cent. We are satisfied however that the mortality is even greater than this, in the northern portion of the United States and Canada. We base our opinion on the ground of hundreds of small bee-keepers of whom we hear, but of whom we have no report, having lost all they had. Our conclusion is, therefore, after a full survey and investigation of the situation, that the losses north of the 38th parallel will be about 65 per cent. of the colonies placed in winter quarters, while many of those that survive come through very weak. South of this parallel we think 25 per cent. will cover the losses. Discouraging as this state of affairs appears, we are daily in receipt of information that bee-keepers are generally looking forward hopefully, with the full determination to make the most of their present resources, and to build up again as rapidly as possible. There appears to be a general feeling that we are going to have a good honey season, and while the amount of honey produced may not be as large as usual, better prices are expected. Many will no doubt run their apiaries more for increase than for honey.... By close attention and judicious management the severe disasters of the past winter may be greatly overcome, and for the future turned to advantage, if the lessons we have learned from the past are not too easily forgotten."

MISCELLANEOUS.

King Birds and Bees.—The *Rural New Yorker* says:

We are of the opinion that the king bird catches not only drones but workers and queens also. Examination of the king bird's crop scarcely ever reveals the presence of bees except in such a condition as to be quite beyond identification. A gentleman once noticed a king bird catching bees and, on close observation saw small particles drop to the ground which proved to be both the bees' extremities, and he concluded that the bees were caught in such a manner as to secure the honey-sac only. If this be true, search for bees in the king bird's crop would be in vain.

Peach Trees Killed.—The *New York Express* says:

There is no hope any longer entertained by the fruit-growers of Delaware of any profit from peaches in that State this season. It is said that not in 25 years has there been a worse showing, and the belief is that a great majority of the peach trees have been killed, while all the rest have been so severely injured as to make them useless. If this be indeed true the loss will be very serious, for no less than \$5,000,000 are invested in peach cultivation on the peninsula, of which more than half is invested in Delaware.

Bee-keepers will have lots of company in disasters this year, among fruit-growers, cattle-raisers, and farmers whose wheat winter-killed. But none who are progressive in any of these branches will talk of giving up.

SELECTIONS FROM OUR LETTER BOX

Cellars for Wintering.—About $\frac{3}{4}$ of the bees in this locality are dead; in fact all who did not winter in a good cellar have now no bees worth mentioning. The winter here is too severe for any kind of packing on the summer stands to be a safe manner of wintering bees. Dysentery and long confinement have caused the loss.

A. A. DECKER.

Granger, Wis., May 5, 1881.

Bees Successfully Wintered.—I have 47 colonies left out of 49; I wintered on the summer stands, with chaff cushions in upper story. Those now left are in splendid condition, being stronger than they were one year ago, and are now building up on fruit bloom. I think there has been a loss of about $\frac{1}{2}$ of the bees in this county.

JAS. A. NELSON.

Wyandott, Kan., May 7, 1881.

Well Done.—I have lost but 2 colonies out of 75; this is my first loss in wintering for 5 years. One starved and one had the dysentery. About $\frac{3}{4}$ of the bees in this locality are dead. I will send you a small crate of my foundation, which I want you to test by the side of the Dunham; I have no fear of the result.

D. S. GIVEN.

Hoopeston, Ill., May 9, 1881.

[As soon as convenient after it comes we will give it a fair trial and report the results in the BEE JOURNAL.—ED.]

No Loss in Winter.—This has been a very hard winter on bees; about $\frac{3}{4}$ are dead in this vicinity. I wintered 10 colonies in the yard and 30 in the cellar, and only lost one, which was caused by my closing the entrance of the hive and neglecting to open it when removing from the cellar. THOMAS HEATON.

Moore's Hill, Ind., May 3, 1881.

Bees that are Stingless.—Will bees puncture grapes, is a question that has been discussed considerably of late. Now, as regards my 25 colonies of bees, I can put that question at rest—they will not puncture grapes, neither will they sting. In the language of Jim Fisk, "they are gone where the woodbine twineth." The majority of the bees that have passed through the winter in this vicinity are in the old box hives. I will make it as light as possible by averaging it. Last season was a poor year and I had plenty of bees; this year I have no bees and there is a good prospect for honey.

E. F. CASSELL.

Illinois City, Ill., May 2, 1881.

Out of the Woods.—My bees have wintered well. I put 166 colonies in the cellar last fall and now have 147 in good condition, and am out of the woods, for the fruit blossoms are just coming out. I use the 8-frame Langstroth hive.

J. F. SPAULDING.

Charles City, Iowa, May 10, 1881.

No loss without some small gain.—My loss the past winter has been 42 out of 93 colonies and about $\frac{1}{2}$ of those remaining are very weak in numbers; but I am not discouraged, for although my loss is severe and the prospect for a honey crop almost none at all, I am not alone in my misfortunes, and I have the satisfaction of knowing that the scores of colonies of black bees which surrounded my apiary and made it almost impossible for me to get an Italian queen purely fertilized, are now almost a thing of the past. I shall now take measures to have all the bees in reach of my apiary Italianized if I have to do it for nothing, and there are other considerations which contribute to lighten the load of my woes. I winter on the summer stands packed in chaff. My hives face the east and stand in rows so close to each other that none but those on the south end of the rows are exposed to the sun during mid-day,

and every one on the south end of a row and every one of several scattered over the yard and fully exposed to the sun are in good condition. Those in the rows starved with an abundance of honey in their hives.

GEO. M. PIPER.

Chillicothe, Ill., May 2, 1881.

Wintered Successfully.—I put 23 colonies of bees in my cellar on Nov. 11 and took them out April 18, all in good condition. You could not have told that they had been confined at all; all had either eggs or brood; they have not dwindled any other than those which die a natural death, which in some hives has apparently not exceeded the number hatched. As I have wintered successfully I wish to summer as well; please tell me how to prepare them to move them 4 miles over a rough, hilly road, to a small belt of basswood. The hives are 2-story simplicity, Langstroth frame, and both stories as full of bees as I can get them? In looking over my bees to-day I found capped drone brood in 3 or 4 colonies. I have been around among the farmers lately, buying combs to melt into wax for foundation, and find the mortality of bees as follows: Visited and heard direct from 15 bee-keepers with a total of about 114 colonies that they attempted to winter, of which number only 15 or 19 are now living, and several of those are weak. I have also heard from several experienced apiarists, who have lost from $\frac{3}{4}$ to $\frac{1}{2}$.

JAMES NIPE.

Spring Prairie, Wis., May 7, 1881.

[In early morning, while cool, put a bottom strip in the hive with notches for bottoms of frames, or slip down strips to prevent frames from shaking; then tack down ends of frames. In the evening put wire cloth or mosquito netting over the portico, and move them at night, so as to keep them confined as short a time as possible. Care must be taken that they do not get excited and melt down the combs.—ED.]

My Bees in Good Condition.—I put 17 colonies into the cellar last fall and had 2 die, they were queenless. I have 15 good strong colonies left, for which I am satisfied. They were confined 148 days. I use the Doolittle hive and pack as he does. It has been a very hard winter for bees; I think about $\frac{3}{4}$ that were in this county have died; those that were put in cellars wintered best. You can put me down for a life subscriber for the BEE JOURNAL.

CHARLIE W. BRADISH.

Glensdale, N. Y., April 30, 1881.

How I Packed in Chaff.—I put into winter colonies 72 colonies, and lost one by dysentery and 5 starved. I doubled up some weak ones and now have 58. I have a separate stand for each hive made by taking a 2x4 scantling 2 feet 2 inches in length, and 4x8 the same length, nailing on boards 3 feet long, putting the wide piece behind, elevates the stand 4 inches, on which I place the hive for the summer; I use the Langstroth hive. In the fall, as soon as the honey flow ceases, and before it gets cold, I take a box 2 feet high that will fit the stand; it is without bottom or top, the foundation answering for a bottom; I place it over the hive, leaving 4 inches space for chaff. I then put a 6 inch block under the back of the hive; that leaves a chance for packing under the hive. Taking off the honey boards I put on a box that will fit the hive; the box is 4 inches deep with wire cloth on the bottom, putting in burlaps to keep the litter from the bees, then filling with cut straw. The cap above the box is filled with straw. I have a hole through the cap on each side covered with wire cloth to keep out the mice and let the foul air pass off. In the front I have a spout 10 inches long, made by nailing 4 pieces of 1 inch board, 4 inches wide, leaving an entrance 2x4 for the bees to pass to the hive; on the end of the spout I have a door, hung with one hinge, that I can close in cold weather. By running a block in the spout up to the hive, you can give them as small an

entrance as desired. The cover of the box should be made to keep perfectly dry. By wintering in this way my bees come out clean. I weighed all of my hives last fall to ascertain the amount of honey; they had from 13 to 28 lbs.; the one that died of dysentery consumed 26 lbs.; others that were soiled consumed in like manner; those that came through all right consumed the least honey.

GEO. WICKWIRE.
Weston's Mills, N. Y., May 6, 1881.

The Winter and Bees in Maine.—After reading so much about disaster among bees elsewhere it is encouraging to know that in this part of Maine we have done well. My bees wintered well and are in good condition. I have heard of but one colony here that is lost, and that had no care or protection. It has not been colder than 8° below zero here; cold weather commenced early and continued until about February 25, when we had a rain, which, with the warm sun, took off the snow, and gave the bees a cleansing flight. I like the chaff hive, either for wintering on the summer stands or in the cellar; it keeps them dry and warm. The BEE JOURNAL is a welcome visitor—the more I read it the better I like it.

A. F. MILLER.
Camden, Maine, May 6, 1881.

Only 7 Saved out of 140.—I commenced the season of 1880 with 93 colonies; the honey season was late, none being stored until about June 20; I increased to 140 by the "shaking off" process, making 1 new colony from 2 old ones, and a few natural swarms that came out from those very strong, although I examined often and destroyed the queen cells to prevent increase. I extracted all the white clover and basswood honey; all honey left for wintering was gathered after July 25. All were very strong in numbers and they soon filled up the hives, so that I had to extract the fall honey from some. Our first frost was on Aug. 17, which nipped buckwheat and fall blossoms and checked the flow of honey; still they gathered more than they used. On Oct. 16 the weather became cold and after that the bees did not fly. I examined them on Feb. 1 and found 3 dead, and many were getting very uneasy; by March 1 only 88 answered to the usual rap; on Mar. 6, down to 62; on the 15th, to 55; these then had a flight, but many were lost on the snow, and by the end of the month only 42 remained. The first week of April was very cold and unfavorable, and by the 10th only 12 remained, and to-day only 7 survive out of the 140; a few bees are left in some of the hives, but they do not count anything; all had plenty of honey. Now I think all, or nearly all my bees had as much unsealed and late gathered poor honey as they would consume for a month after they were confined to the hive, and if they could have had a flight early in November all would have been well. I winter on the summer stands and in different hives, some being double and having 4 inches of sawdust all around them; the bees in some of these double hives were the first that died.

GEO. GARLICK.
Warsaw, Ont., May 6, 1881.

Abnormal Swarming.—The Weekly BEE JOURNAL comes regularly to hand. I am well pleased with it and would not be without it for twice its cost. I like to read the articles of Messrs. Doolittle and Heddon. I think they are both earnest in what they say, and hope they will continue from time to time to furnish us with their interesting articles on bee-ology. While working close to one of my black colonies I noticed a small cluster of bees on a piece of plank lying in front of the hive directly under the alighting-board. I was a little curious to see what they were doing, and was astonished to find the queen; she was so quiet that at first I thought she was dead, but she was alive and the bees were in a circle around her caressing her and offering her food. On opening the hive to replace the queen I found everything all quiet, but immediately on dropping the queens on top of the frames the bees attacked her as they would a stranger. I immediately ran and lit my smoker

and smoked them loose, covered up the hive, and in about 2 hours after on examining the hive found all quiet, and the old lady apparently following her usual duties as though nothing unusual had happened. What was the cause of her leaving the hive and brood in this manner? The hive contained only about 4 or 5 frames of bees and brood. I had them closed up with division boards. The queen had a clipped wing, otherwise she might have left for good.

W. T. CLARY.
Claryville, Ky., May 9, 1881.

[It was an attempt at abnormal swarming. Those bees which you found in the hive had undoubtedly come out with her, but when she dropped to the ground lost sight of her and returned to commence the work of rearing a queen. Of course they were loth to accept her till after smoking.—Ed.]

Bee-Keeping in Missouri.—I have 100 hives—56 containing bees in good condition, the rest empty, ready for the swarming season. I prefer natural swarming for increase. My hives are 10 inches above the ground, and 10 feet apart each way, located in a locust grove of 60 trees 5 or 6 inches through, tops about 12 feet high; 3 of these trees were struck by lightning; I do not know whether it is the electricity in the bees, or the locust trees that attract the lightning; or either of them. There is heavy timber close by. I have lost 4 colonies; they were moved to another part of the yard soon after their first flight. There has been great mortality among the bees in this county during the past winter, but principally with those in box hives or log gums. Great ignorance prevails here among those keeping bees; they will yet be compelled to discard these "old fogey" ideas, sooner or later, for scientific advancement is rapidly gaining ground west of the Mississippi.

J. SMITH HEAD.
Benton, Mo.

Plenty of Honey but few Bees.—It is hard to make a report when our efforts have not been successful. I had 70 colonies last fall, now have 9 or 10, and most of them are weak; they all had plenty of honey, but long confinement did it. Our first natural pollen came April 15. I think 1/2 of the bees in this vicinity are dead. I shall try again but will have to go slow; I shall buy a few queens from those who don't raise dollar queens. It may be profitable to dollar queen breeders to rear them, but it is loss to the purchasers. I thank God for the men who are opposing cheap queens, glucosed honey, and other frauds which are doing great injury to bees and their true friends. I like the BEE JOURNAL, and want to see the subscription list large enough to sustain it well.

D. G. PARKER.
St. Joseph, Mo., April 21, 1881.

No Loss in Wintering.—I finished putting out my 240 colonies on April 25. They are in prime condition with only 8 dead ones (4 starved and 4 destroyed by mice). Two of my neighbors wintered 100 and 105, respectively, without losing any. I like a solid cold winter for bees.

IRA BARBER.
De Kalb, N. Y., May 2, 1881.

What is Required.—The article on page 99, by A. Webster, is worthy of careful consideration, and if a hive-frame or system of bee-management can be established in exact accordance with the honey bee, it will be a grand success. Let us have a hive in which we can control the colony, be it small or large; in which we can produce extracted or comb honey in the best possible shape for market; that the honey can be taken from the hive without disturbing the brood nest; that the frames can be lifted out without sticking or scraping; that swarming may be encouraged or prevented, as desired; that bees can be safely wintered on the summer stands on the smallest possible amount of honey, without chaff, sawdust, lime, or any other packing (all such prove a deficiency in the hive); that the bees can keep cool in during the hot

sultry days of July and August, and one in which they can keep warm when the mercury marks 20° below zero; a hive that is cheap and simple, and that can be made with a saw and hammer. Let us have no hobbies to ride or scissors to grind. Such a hive will be universally adopted. Movable frame hives have been in use long enough for all their good qualities to be known, and the size of frame best adapted for summer and winter use. Let the entomologist, the honey producer, the queen breeder, and the hive maker reason together, and the result ought to be what is wanted.

J. S. DUNCAN.
Browning, Mo., April 18, 1881.

Wintered in the Cellar.—I put 119 colonies in the cellar Nov. 15, and took out alive 107 April 16. I left 6 out for want of room, all of which died, of course. Those taken from the cellar were put on the summer stands between 7 and 9 a. m., without reference to their former location. The caps were left off till towards night and put on while the bees were out; the result was a dozen colonies went in with others (all had plenty of honey), and now, after robbing, etc., I have 89 colonies in the best of condition. My loss was wholly the result of carelessness. The cellar was 8x16, partitioned off from the family cellar by sheeting paper. But a few nights in the winter that the outer door was not opened to cool the atmosphere. In March I made a "blower" so that I could cool them at any time. My bees consumed from 8 to 10 lbs. of honey on the average in the 5 months. I have had good colonies winter well on 4 lbs.; some used 18, but generally 6 to 10. About 1/2 of the bees are probably dead in this locality. Will Hiram Roop please say why he would rather have 100 colonies wintered out of doors than 150 in the cellar? Do queens go out with the bees on their first flight? How can I keep a queen for future use?

THOS TRACY.
Nashua Iowa, May 1, 1881.

[Queens do not go out with the bees on their first flight. If your bees are allowed to swarm naturally, you cannot keep the queen without clipping one wing. By dividing, you can save her by removing to the new colony, or depleting the colony in which she remains.—Ed.]

Good Prospect.—The winter has passed and so have many of the bees. The past 2 seasons were a total failure. There are but 6 colonies of black bees left in this vicinity; the Italians have held their own better. I doubled down last fall from 95 to 70 colonies; wintered them in a house apiary; put them in the house Nov. 14 and took them out March 20; I found 4 weak colonies, all dead now; 3 queenless, 2 with drone laying queens, and several weak in numbers. I doubled down to 56 which are all in fair condition. Fruit trees are beginning to bloom; if we have fair weather now I think we shall have a fair crop of honey, for white clover promises to be abundant. When I read the reports in the JOURNAL I feel that I have reason to be thankful. I am now engaged in other business, so if it is a good season I shall have all I can attend to, and if it is a poor season I have enough.

J. M. VALENTINE.
Carlinville, Ill., May 4, 1881.

Loss One in a Thousand.—Our terrible winter is nearly ended. It has been more fatal to bees than any for many years. Nearly all who had a dozen or so of colonies have lost all. Judging from the reports in the JOURNAL those who wintered out-of-doors will be trying something different, and I am rather glad that they have had something to open their eyes. It may be all right to winter out in the cold, but to me it has the appearance of barbarism, and I cannot see how anyone with the least kindly feeling for the bee can sleep on those cold dreary nights, when they must know their bees are having a death struggle with the cold. If the winter's losses shall teach a lesson to such men, then all the bees have not died in vain. Another reason why people should house bees is, it pays; much

less honey is consumed in a warm room than out in the storm. The walls of my bee house are 26 inches thick, filled in with tan bark and sawdust, with double doors and ventilators—ground is covered several inches with dry sawdust, to take the moisture. The bees were kept in 160 days this winter with no signs of dysentery. I took about 950 colonies out of my old apiary April 9; all were alive, though one had but the queen and a very few bees, and soon perished. Of about 44 colonies bought last fall in bad condition, and kept in another room, I lost 7. My bees are stronger than ever. P. T. GRIFFITH.
Danby, Vt., April 19, 1881.

Cellar Wintering.—For the past 5 years this has been always satisfactory with me, although loss from dwindling always averages from 20 to 30 per cent. I have now 50 good colonies out of 70 last fall.

J. C. THOM, M. D.
Streetsville, Ont., May 10, 1881.

A Loss of One-third.—About Nov. 15 I packed with chaff 30 strong colonies on the summer stands—part were in hanging-frames and part in Quinby's standing frames. I have 20 now. I see no choice between the different styles of frames for wintering. I also had 12 nuclei, each with from 2 to 4 frames and about a quart of bees; of the 3 I packed in chaff on the summer stands there are but 2 weak ones left; the others I put in the cellar without packing—2 or 3 in a hive, with division boards between. On April 15 I took them out and 5 were alive, but 2 dwindled away. The other 3, I think, will build up. My cellar was damp. ROBERT DOWNS.
Naugatuck, Conn., May 6, 1881.

Experienced Bee-keepers.—While a large percentage of the bees in this locality are dead, experienced bee-keepers who had their bees in cellars have lost but few, and their bees are now doing well.

J. DEWAR.
Tiverton, Ont., May 10, 1881.

Good.—From 90 colonies placed in the cellar Nov. 12 I have 82 in fair condition. I estimate the loss in this locality at 25 per cent.

W. H. FLETCHER.
Sauk Rapids, Minn., May 2, 1881.

Heavy Loss.—Mr. Knowles and I had about 45 colonies each last fall; now he has 5 and I 6. All were packed in chaff. Nearly all the bees in this locality are dead.

R. WALTON.
Industry, Pa., May 7, 1881.

Lost 2 out of 7.—I have lost 2 out of 7 colonies in wintering; the cold came on last fall before I was prepared for it, and I left them unprotected; the other 5 have now sealed brood and I hope are all right. Can I give my new swarms on those old combs this spring? they have each about 5 lbs. of honey in the hive and I have no extractor. A neighbor of mine has half a dozen colonies in box hives; the back of the hive is hinged and the brood chamber closed in with a pane of glass; about the first of March when I saw them I found one of them with the glass out of the brood chamber, and the back of the hive so swelled and warped that it would not close within 6 inches, leaving one side almost wholly exposed to the weather. I was told that they had been so all winter, and yet that hive contained the best colony in the lot, and on April 1 the bees were carrying in pollen lively. The combs were as bright and fresh as when first made. In the surplus chamber were 2 large boxes that the owner did not dare to remove, on account of the bees flying out front and back. Perhaps they kept that warm enough to live in during the winter, and so were not obliged to go on the other edge of the combs for food. I am of the opinion that you "built better than you knew" when you made the JOURNAL a Weekly; it has already become a necessity, and the bee-keepers of this country, as well as Europe, appreciate it.

C. W. DOW.
Lynn, Mass., April 18, 1881.

[Yes; those combs are as good as so much gold. Let them dry thoroughly before using.—Ed.]

SPECIAL NOTICES.

Single copies of the JOURNAL are sent postage paid for 5 cents each.

Those who may wish to change from other editions to the Weekly, can do so by paying the difference.

The Volume of the BEE JOURNAL for 1880, bound in stiff paper covers, will be sent by mail, for \$1.50.

When changing a postoffice address, mention the old address as well as the new one.

We have prepared Ribbon Badges for bee-keepers, on which are printed a large bee in gold. Price 10 cents each, or \$8.00 per hundred.

Notices and advertisements intended for the Weekly BEE JOURNAL must reach this office by Friday of the week previous.

We can supply but a few more of the back numbers to new subscribers. If any want them, they must be sent for soon.

A Safe and Sure Means of restoring the youthful color of the hair is furnished by Parker's Hair Balsam, which is deservedly popular from its superior cleanliness. 18w4t

Constitutions and By-Laws for local Associations \$2 per 100. The name of the Association printed in the blanks for 50 cents extra.

Sample copies of the Weekly BEE JOURNAL will be sent free to any names that may be sent in. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

The date following the name on the wrapper label of this paper indicates the time to which you have paid. In making remittances, always send by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, and local checks, are not taken by the banks in this city except at a discount of 25c., to pay expense of collecting them.

PREMIUMS.—For a club of 2, weekly we will give a copy of "Bee-Culture;" for a club of 5, weekly, we will give a copy of "Cook's Manual," bound in cloth; for a club of 6, we give a copy of the JOURNAL for a year free. Do not forget that it will pay to devote a few hours to the BEE JOURNAL.

At the Chicago meeting of the National Society we were requested to get photographs of the leading apiarists, to sell to those who wanted them. We can now supply the following at 25 cents each: Dzierzon, the Baron of Berlepsch, and Langstroth. The likeness of Mr. Langstroth we have copied, is one furnished by his daughter, who says, "it is the only one ever taken when he was in good health and spirits." We are glad to be able to secure one of such a satisfactory nature.

It would save us much trouble, if all would be particular to give their P.O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name. Many others having no Post-office, County or State. Also, if you live near one postoffice and get your mail at another, be sure to give the address we have on our list.

Food for the Brain and Nerves that will invigorate the body without intoxicating, is what we need in these days of rush and worry. Parker's Ginger Tonic restores the vital energies, soothes the nerves and brings good health quicker than anything you can use.—Tribune. See other column. 18w4t

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—The market is plentifully supplied with honey, and sales are slow at weak, easy prices. Quotable at 15¢@18c. for strictly choice white comb in 1 and 2 lb. boxes; at 10¢@12c. for common dark-colored and broken lots. Extracted, 7¢@8¢.

BEEWAX.—Choice yellow, 20¢@25c; dark, 15¢@17.

NEW YORK.

HONEY.—Best white comb honey, small nest packages, 14¢@17c; dark 11¢@12; large boxes 2c. less.—White extracted, 9¢@10c; dark, 7¢@8c.

BEEWAX.—Prime quality, 20¢@25c.

CINCINNATI.

HONEY.—The market for extracted clover honey is good, at 8¢@10c. Comb honey is of slow sale at 16c. for the best.

BEEWAX.—18¢@22c.

C. F. MUTH.

SAN FRANCISCO.

HONEY.—A general disposition to clean up stocks of extracted is enabling buyers to obtain concessions on previous asking rates. Late rains have materially increased the bee food in the leading honey districts, and there are now good prospects of a very fair crop. We quote white comb, 12¢@14c; dark to go 4¢@11c. Extracted, choice to extra white, 5¢@6¢; dark and candied, 4¢@5¢.

BEEWAX.—22¢@24c., as to color. STEARNS & SMITH, 423 Front Street. San Francisco, Cal., April 30, 1881.

CLUBBING LIST.

We supply the Weekly American Bee Journal and any of the following periodicals, for 1881, at the prices quoted in the last column of figures. The first column gives the regular price of both:

Publisher's Price.	Club.
The Weekly Bee Journal (T. G. Newman)	\$2.00
and Cleanings in Bee-Culture (A. I. Root)	3 00.
Bee-Keepers' Magazine (A. J. King)	3 00.
Bee-Keepers' Exchange (J. H. Nellis)	2 75.
The 4 above-named papers	4 75.
Bee-Keepers' Instructor (W. Thomas)	2 50.
Bee-Keepers' Guide (A. G. Hill)	2 50.
The 6 above-named papers	5 75.
Prof. Cook's Manual (bound in cloth)	3 25.
Bee-Culture (T. G. Newman)	2 40.
For Semi-monthly Bee Journal, \$1.00 less.	
For Monthly Bee Journal, \$1.50 less.	

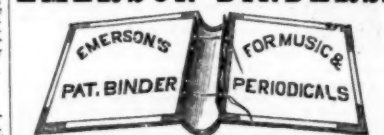
Local Convention Directory.

1881. Time and Place of Meeting.
May 10, 11—Eastern New York, at Schoharie, N. Y.
W. S. Ward, Sec., Fuller's Station, N. Y.
11—S. W. Wisconsin, at Darlington, Wis.
N. E. France, Sec., Plattville, Wis.
12, 13—Texas Bee-Keepers' Association, at McKinney, Collin Co., Texas.
W. R. Howard, Sec., Kingston, Hunt Co., Tex.
17—N. W. Ill. and S. W. Wis., at H. W. Lee's, Pecatonica, Ill.
J. Stewart, Sec.
17—N. W. Union, at Hastings, Minn.
P. B. Dorothy, Sec.
19—Champlain Valley, at Bristol, Vt.
T. Brookings, Sec.
Sept.—National, at Lexington, Ky.
Kentucky State, at Louisville, Ky.
Oct. 11, 12—Northern Michigan, at Maple Rapids.
12—Ky. State, in Exposition B'dg., Louisville, Ky.
W. Williamson, Sec., Lexington, Ky.

In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Instead of sending silver money in letters, procure 1, 2 or 3 cent stamps. We can use them, and it is safer to send such than silver.

EMERSON BINDERS.



Binders for the Weekly Bee Journal, of 1881, cloth and paper, postpaid, 85 cents.

We can furnish Emerson's Binders, gilt lettered on the back, for AMERICAN BEE JOURNAL for 1880, at the following prices, postage paid:

Cloth and paper, each.....50c.

Leather and cloth.....75c.

We can also furnish the Binder for any Paper or Magazine desired.

THOMAS G. NEWMAN, 974 West Madison Street, Chicago, Ill.

MAPLE SUGAR WANTED.—I wish to buy for cash a quantity of PURE Maple Sugar. Give price, quality, quantity and how put up. Would prefer to hear direct from producers. 1881mt M. M. BALDRIDGE, St. Charles, Ill.

VOLUME FOR 1880, American Bee Journal.

Bound in stiff paper covers. A few copies for sale at \$1.00, postpaid to any address.

THOMAS G. NEWMAN, 974 West Madison Street, Chicago, Ill.

SEEDS FOR HONEY PLANTS

A full variety of all kinds, including Melilot, Alsike and White Clover, Mammoth Mignonette, &c. For prices and instructions for planting, see my Illustrated Catalogue, sent free upon application. ALFRED H. NEWMAN, 972 West Madison St., CHICAGO, ILL.

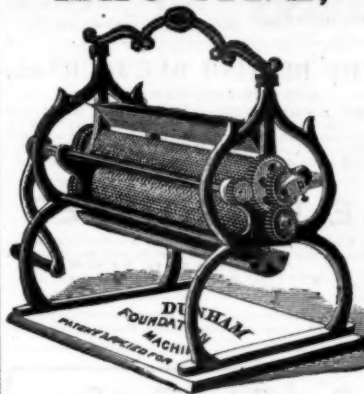
FRANCES DUNHAM,

Investor and Sole Manufacturer of the

DUNHAM

FOUNDATION

MACHINE,



AND DUNHAM

COMB FOUNDATION,

New Circular and Samples free.

FRANCES DUNHAM, DEPERE, BROWN CO., WIS.

Be SURE

To send a postal card for our Illustrated Catalogue of Apian Supplies before purchasing elsewhere. It contains illustrations and descriptions of everything new and valuable needed in an apiary, at the lowest prices. Italian, Cyprian and Holy Land Queens and Bees.

J. C. & H. P. SAYLES, Hartford, Wis.

THE ORIGINAL QUINBY SMOKER,

with upright bellows and tube, has been upon the market five years longer than any smoker made. "The largest bee-keeper uses them." "The Herington Bros. are the most extensive bee-keepers in the United States."

Cherry Valley, N. Y., March 22, 1881. After testing your smokers with others of the best make, I do not hesitate to order two dozen for use in our apiaries. When we use a Smoker we make a business of it, running it all day and burning hard maple wood, which tests the construction most thoroughly. Those we have been using admit coals into the bellows, which burn the leather. The tube in your Quinby Smoker running further into the fire-box, must prevent this in a great measure. J. E. HETHERINGTON.

We warrant our new Double-Blow to be the BEST Smoker made, or will refund the money. Prices by mail—Medium, 2 inches.....\$1.50 Large, 2 1/2 inches.....1.75

QUINBY'S NEW BEE-KEEPING,

By mail.....\$1.50 Send for it, and learn how we were enabled to obtain over 15,000 lbs. of honey from 178 colonies last season.

Alsike Clover Seed a Specialty.



The Van Deusen Feeler, with our attachment, as shown in the cut, is perfection itself. Send for illustrated circular describing all goods.

L. C. ROOT & BRO.,

17 Mohawk, N. Y.

15 One-Cent Stamps

Will pay for our exhaustive pamphlet on raising, handling and marketing extracted honey.

COLONIES

Imported Italian Queens,

Of our own Importation.

GUARANTEED PURE AND GENUINE. Our Comb Foundation was awarded the diploma at the North-Eastern Bee-Keepers' Convention held in February.

Smokers, Knives, Extractors, &c. Price List, with 3 samples of Comb Foundation, free. CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

Books for Bee-Keepers.

Sent by mail, postpaid, on receipt of price, by

THOMAS G. NEWMAN.

974 West Madison Street, CHICAGO, ILL.

Cook's Manual of the Apiary.—Entirely rewritten, greatly enlarged and elegantly illustrated, and is fully up with the times on every conceivable subject that interests the apiarist. It is not only instructive, but intensely interesting and thoroughly practical. The book is a masterly production, and one that no bee-keeper, however limited his means, can afford to do without. Cloth, \$1.25; paper, \$1.

Quinby's New Bee-Keeping, by L. C. Root.—The author has treated the subject of bee-keeping in a manner that cannot fail to interest all. Its style is plain and forcible, making all its readers sensible that the author is master of the subject.—\$1.50.

Novice's ABC of Bee-Culture, by A. I. Root. This embraces "everything pertaining to the care of the honey-bee," and is valuable to beginner and those more advanced. Cloth, \$1.25; paper, \$1.00.

King's Bee-Keepers' Text-Book, by A. J. King.—This edition is revised and brought down to the present time. Cloth, \$1.00; paper, 75c.

Langstroth on the Hive and Honey Bee. This is a standard scientific work. Price, \$2.00.

Blessed Bees, by John Allen.—A romance of bee-keeping, full of practical information and contagious enthusiasm. Cloth, \$1.00.

Bee-Culture; or Successful Management of the Apiary, by Thomas G. Newman.—This pamphlet embraces the following subjects: The Location of the Apiary—Honey Plants—Queen Rearing—Feeding—Swarming—Dividing—Transferring—Introducing Queens—Extracting—Quitting and Handling Bees—The Newest Method of Preparing Honey for Market, etc. It is published in English and German. Price for either edition, 40 cents, postpaid, or \$3.00 per dozen.

Food Adulteration; What we eat and should not eat. This book should be in every family, where it ought to create a sentiment against the adulteration of food products, and demand a law to protect consumers against the many health-destroying adulterations offered as food. 300 pages. Paper, 50c.

The Dzierzon Theory—presents the fundamental principles of bee-culture, and furnishes a condensed statement of the facts and arguments by which they are demonstrated. Price, 15 cents.

Honey, as Food and Medicine, by Thomas G. Newman.—This is a pamphlet of 24 pages, discarding upon the Ancient History of Bees and Honey; the nature, quality, sources, and preparation of Honey for the Market; Honey as an article of food, giving recipes for making Honey Cakes, Cookies, Puddings, Foam, Wines, &c.; and Honey as Medicine, followed by many useful Recipes. It is intended for consumers, and should be scattered by thousands all over the country, and thus assist in creating a demand for honey. Published in English and German. Price for either edition, 6c.; per dozen, 50c.

Wintering Bees.—This pamphlet contains all the Prize Essays on this important subject, that were read before the Centennial Bee-Keepers' Association. The Prize—\$25 in gold—was awarded to Prof. Cook's Essay, which is given in full. Price, 10c.

The Hive I Use—Being a description of the hive used by G. M. Doolittle. Price, 5c.

Extracted Honey; Harvesting, Handling and Marketing.—A 24-page pamphlet, by Ch. & C. Dadant, Hamilton, Ill. This gives in detail the methods and management adopted in their apiary. It contains many useful hints.—Price 15c.

Practical Hints to Bee-Keepers, by Chas. F. Muth; 32 pages. It gives Mr. Muth's views on the management of bees. Price, 10c.

Kendall's Horse Book—No book can be more useful to horse owners. It has 32 engraving illustrations of positions of sick horses, and treats all diseases in a plain and comprehensive manner. It has a large number of good recipes, a table of doses, and much other valuable horse information. Paper, 25c.

Chicken Cholera, by A. J. Hill.—A treatise on its cause, symptoms and cure. Price, 5c.

Ropp's Easy Calculator.—These are handy tables for all kinds of merchandise and interest. It is really a lightning calculator, nicely bound, with slate and pocket for papers. In cloth, \$1.00; Morocco, \$1.50. Cheap edition, without slate, 50c.

The Crowning Culmination! A \$5 Book for \$2.50!!

MOORE'S UNIVERSAL ASSISTANT,

and Complete Mechanic, Enlarged Edition, contains over 1,000,000 Industrial Facts, Calculations, Processes, Trade Secrets, Legal

Items, Business Forms, etc., of vast utility to every Mechanic, Farmer, and Business Man. Gives \$50,000 worth of Gas, Steam, Civil and Mining Engineers, Machinists, Millers & Blacksmiths, Founders, Miners, Metallurgists, Assayers, Plumbers, Gas and Steam Fitters, Braziers, Gilders, Jet and Wood Workers, Every Kind of Building Manufactory and Mechanics. 500 ENGRAVINGS of Mill, Steam, and Mining Machinery, Tools, Sheet Metal Work, Mechanical Movements, Plans of Mills, Roofs, Bridges, etc. Arrangements and Specifications of Steam, Engines, Furnaces, Belts, Saws, Poring, Turning, Planing, & Drilling Tools, Flour, Oatmeal, Saw, Shingle Paper, Cut, a Wooden & Felling Mill Machinery, Sugar, Oil, Marble, Thrashing & Rolling Mills, do. do. do. do. do. do. Presses, &c. Strength of Teeth, Shafting, Belting, Friction, Lathe Gearing, Screw Cutting, Finishing, etc. Building, Repairing and Operating, Setting of Valves, Eccentric Link & Valve Motion, Steam Boiling Pipe & Boiler Covering, Scale Preventives, Steam Heating, Ventilation, Gas & Water Works, Hydraulics, Mill Dams, Horse Power of Streams, etc. On Blast Furnaces, Iron & Steel Manufacture, Prospecting and Exploring for Minerals, Quarts and Placer Mining, Assaying, Assaigment, etc. 461 TABLES with 500,000 Calculations in all possible forms for Mechanics, Merchants and Farmers, 631 Items for Printers, Publishers and Writers for the Press, 1,000 Items for Grocers, Collectors, Physicians, Druggists, etc. 300 Health Items, 500 do. for Painters, Varnishers, Glaziers, etc. 500 do. for Watchmakers & Jewellers, 400 do. for Gunners, Trappers, Leather & Shoe Workers, etc. Navigation, Telegraphy, Photography, Book-keeping, etc. in detail. Strength of Materials, Effects of Heat, Fuel Values, Specific Gravities, Freight by rail and sea—Car Load, Stowage in Ships, Power of Steam, Water, Wind, Shrinkage of Castings, etc. 10,000 Items for Housekeepers, Farmers, Gardeners, Stock Owners, Bee-keepers, Lumbermen, etc. Fertilizers, full details, Cures of Diseases, Cures of Cattle, Horses, Sheep, etc. to increase Crops, Pest Poisons, Trailing Horses, Steam Power on Farms, LIGHTNING CALCULATOR for Cubic Measure, Ready Reckoner, Producers, Bent, Board, Weights, Interest, Coal & Stomach Tables, Land and Grain, Hay & Cattle Measurement, &c. Poultrying, Planting & Breeding Tables, Contents of Granaries, Cribbs, Tanks, Cisterns, Boilers, Logs, Boards, Scantling, etc. at sight. Business Forms, all kinds, Special Laws of 49 States, Territories and Provinces in the U. S. and Canada, Remittance to the Coll. of Debts, Exemptions from Forced Sale, Mechanics' Lien, the Jurisdiction of Courts, Sale of Real Estate, Rights of Married Women, Interest and Usury Laws, Limitation of Actions, etc.

"Forms complete treatises on the different subjects."—Sci. Am. The work contains 1,016 pages, is a veritable Treasury of Useful Knowledge, and worth its weight in gold to any Mechanic, Business Man, or Farmer. Sent by mail, in fine cloth, for \$2.50; in leather, for \$3.50.

